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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,161	02/22/2005	Gordon Alastair Bell	PPD 50652	5654

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EXAMINER	
BROOKS, KRISTIE LATRICE	
ART UNIT	**PAPER NUMBER**
1616	

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10/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/525,161	BELL, GORDON ALASTAIR	
	Examiner	Art Unit	
	Kristie L. Brooks	1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☒ Claim(s) *8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/22/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

1. Claims 1-14 are pending.

Claim Objections

2. Claim 8 is objected to because of the following informalities: Typographical error. The word "grops" should be corrected to ---groups---.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Baker et al. (US 4,808,408).

Baker et al. teach an improved coacervation process for microencapuslation of core ingredients that are partially soluble in the microcapsule walls where in the core ingredient is first mixed with a coacervation adjacent prior to forming a first colloidal emulsion of core ingredient, and, after combining the first emulsion with a second colloidal solution and cooling to cause gelation, a water-soluble wax derivative is added (see the entire article, especially the abstract and column 2 lines 25-40). The core ingredients can include mosquito repellant DEET (also known as N,N-diethyl-m-toluamide), other insect repellants, insecticides, herbicides, fertilizers, etc. (see the entire article, especially column 2 lines 61-68). The coacervation adjuvant may be a long-chain ionizable surfactant, preferably with a low hydrophile/lipophile balance (HLB)

value in the range of 1 to 8, such as long-chain amines, long-chain polyamines, quaternary ammonium salts, long-chain sulfonic acid salts, long-chain carboxylic acid salts, and the like; or a long-chain ionizable organic compound, such as fatty acids, fatty alcohols and fatty esters (see the entire article, especially column 2 lines 48-60). Example 1 discloses a solution of 4.2g stearic acid in 100ml deet (~99.8g/l), emulsified in a gelatin solution where microcapsules resulted (see the entire example, column 3 Example 1 and also Example 3).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker et al. (US 4,808,408) in view of Wallach et al. (US 4,853,228).

Applicant claims an agrochemical composition comprising (a) a non-encapsulated aqueous solution or dispersion of an agrochemical and (b) a suspension in said aqueous solution or dispersion of a microencapsulated liquid, water-insoluble, bioperformance-enhancing adjuvant for said agrochemical.

Determination of the scope and content of the prior art

(MPEP 2141.01)

The disclosure of Baker et al. (US 4,808,408) has been set forth above. Specifically, Baker et al. teach an improved coacervation process for microencapuslation of core ingredients (i.e. DEET, insecticides, herbicides) mixed with a coacervation adjuvant (i.e. long chain ionizable surfactant or organic compound such as fatty acids, fatty alcohols or fatty esters) prior to forming a first colloidal emulsion of core ingredient, and, after combining the first emulsion with a second colloidal solution and cooling to cause gelation, a water-soluble wax derivative is added.

Wallach et al. teach large unilamellar vesicles (LUVs) having large encapsulation efficiency when used as carriers for biologically active molecules (such as pesticides) (see the entire article especially the abstract and column 1 lines 10-17). The LUVs have a diameter greater than 0.450μ (see the entire article especially column 1 lines 27-30). The lipids useful in construction of the vesicles include surfactants such as polyoxyethylene alkyl ethers having the structure

$$R_1\text{-}O\text{-}(CH_2\text{-}CH_2\text{-}O\text{-})_m\text{-}H$$

where R_1 is $(CH_3\text{-}CH_2)_n$, r ranges from 11 to 17 and m is from 2 to 4. The preferred polyoxyethylene alkyl ether is polyoxyethylene (2) cetyl ether (Brij® 52 which has a HLB=4.9), which gives LUVS the highest encapsulation efficiency (see the entire article, especially column 2 lines 59-68 through column 3 lines 1-2, column 4 lines 1-26 and the examples).

Ascertainment of the difference between the prior art and the claims (MPEP 2141.02)

Baker et al. do not teach the adjuvant being alkoxylated as claimed by applicant. Baker et al. do not teach the alkoxy group containing 2 to 4 carbons. Baker et al. do not teach an average of 1 to 2 ethoxy groups or 1 to 20 propoxy groups per adjuvant molecule as claimed by Applicant.

Finding of prima facie obviousness

Rational and Motivation (MPEP 2142-2143)

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use an adjuvant being alkoxylated containing 2 to 4 carbons and having an average of 1 to 2 ethoxy groups per adjuvant molecule.

One of ordinary skill in the art would have been motivated to do this because Baker et al. teach an improved coacervation process for microencapuslation of core

ingredients (i.e. DEET, insecticides, herbicides) mixed with a coacervation adjuvant that can have a long-chain ionizable surfactant, preferably with a low hydrophile/lipophile balance (HLB) value in the range of 1 to 8. Although Baker et al. do not teach an adjuvant being alkoxylated, it would be obvious to one of ordinary skill in the art because surfactants such as polyoxyethylene (2) cetyl ether have a high encapsulation efficiency as taughtby Wallach et al. and is an obvious variation of long-chain ionizable surfactants that may be used in the encapsulation active ingredients. Furthermore, the ratio of the adjuvant to the agrochemical would be obvious to one of ordinary skill in the art, due to process optimization, where one of ordinary skill in the art would have to determine the amount of adjuvant and agrochemical necessary to achieve successful results. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker et al. (US 4,808,408) in view of Roberts (US 5,393,791).

Applicant claims an agrochemical composition comprising (a) a non-encapsulated aqueous solution or dispersion of an agrochemical and (b) a suspension in said aqueous solution or dispersion of a microencapsulated liquid, water-insoluble, bioperformance-enhancing adjuvant for said agrochemical.

Determination of the scope and content of the prior art

(MPEP 2141.01)

The disclosure of Baker et al. (US 4,808,408) has been set forth above. Specifically, Baker et al. teach an improved coacervation process for microencapuslation of core ingredients (i.e. DEET, insecticides, herbicides) mixed with a coacervation adjuvant (i.e. long chain ionizable surfactant or organic compound such as fatty acids, fatty alcohols or fatty esters) prior to forming a first colloidal emulsion of core ingredient, and, after combining the first emulsion with a second colloidal solution and cooling to cause gelation, a water-soluble wax derivative is added.

Roberts teach a homogenous, essentially nonaqueous adjuvant composition to improve the chemical and physical properties of a pesticides, such as an herbicide, insecticide or fungicide comprising a spray oil, a blend of surfactants and a buffering agent that when combined with a pesticide, the composition becomes a more uniform spread of the spray solution of the herbicide or pesticide (see the entire article, especially the abstract, column 1 lines 11-17 and column 2 lines 58-64). The preferred surfactants include peg esters of the formula

$$R(CO)\text{-}O(CH_2CH_2O)_mR'$$

where $R=C_2\text{-}C_{25}$ fatty alkyl, $R'=C_2\text{-}C_{25}$ fatty alkyl and m=1 to100 (see the entire article, especially column 3 lines 34-41).

Ascertainment of the difference between the prior art and the claims

(MPEP 2141.02)

Baker et al. do not teach the adjuvant having formula (II) as claimed by Applicant.

Finding of prima facie obviousness

Rational and Motivation (MPEP 2142-2143)

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use an adjuvant having formula (II).

One of ordinary skill in the art would have been motivated to do this because Baker et al. teach an improved coacervation process for microencapuslation of core ingredients (i.e. DEET, insecticides, herbicides) mixed with a coacervation adjuvant that can have a long-chain ionizable surfactant. Although Baker et al. do not teach the instant adjuvant of formula (II), it would be obvious to one of ordinary skill in the art because surfactants such as PEG esters are useful in improving the chemical and physical properties of pesticides as taught by Roberts and it is an obvious variation of long-chain ionizable surfactants that may be used in agrochemical formulations. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Conclusion

8. No claims are allowed.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristie L. Brooks whose telephone number is (571) 272-9072. The examiner can normally be reached on M-F 8:30am-6:00pm Est..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann R. Richter can be reached on (571) 272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KB

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